

PILOT - LITTLE MAESTRO 10 AC/DC

Valve	Anode		Screen		Cath.
	(V)	(mA)	(V)	(mA)	
V1 12K8GT	170 Oscillator	1.2 3.3	63	2.5	—
V2 12K7GT	170	4.7	63	1.1	0.6§
V3 12Q7GT	38	0.3	—	—	—
V4 35L6GT	152	35.0	122	1.9	9.1§
V5 35Z4GT	220†	—	—	—	240

† A.C. § 10 V meter range.

Drive Cord Replacement.—Forty inches of Nylon braided glass yarn is required for the tuning drive cord, which is run as shown in the sketch in col 2, where it is drawn as seen from the rear, neglecting obstructions, when the gang is at maximum capacitance.

CAPACITORS

		Values (uF)	Locations
C1	Aerial series ...	0.0003	A1
C2	Aerial L.W. shunt ...	0.0003	J3
C3	A.G.C. decoup. ...	0.1	H4
C4	V1 osc. C.G. ...	0.00006	A2
C5	Osc. anode coup. ...	0.0001	A2
C6	S.G.'s decoupling ...	0.1	J4
C7	V2 cath. by-pass ...	0.05	F5
C8	I.F. by-pass ...	0.0003	G3
C9	A.F. coupling ...	0.002	G3
C10	H.T. feed decoup. ...	0.25	H4
C11	I.F. by-pass ...	0.0003	F4
C12	A.F. coupling ...	0.01	F4
C13	Tone corrector ...	0.01	F4
C14*	V4 cath. by-pass ...	50.0	E4
C15*	H.T. smoothing ...	16.0	E4
C16*	Mains R.F. by-pass ...	16.0	D1
C17	I.F. filter tune ...	0.05	E4
C18†	Aerial L.W. trim ...	0.0001	A1
C19†	Aerial M.W. trim ...	0.0001	A1
C20†	Oscillator tuning ...	0.000483	A1
C21†	Osc. M.W. trim ...	0.000483	A2
C22†	Osc. L.W. trim ...	0.0001	A2
C23†	Osc. L.W. tracker ...	0.0003	H5
C24†	Osc. M.W. tracker ...	0.0007	H5
C25†	1st I.F. transformer ...	—	B2
C26†	tuning ...	—	B2
C27†	2nd I.F. trans- ...	—	G4
C28†	former tuning ...	—	G4

* Electrolytic.

† Variable.

‡ Pre-set.

RESISTORS

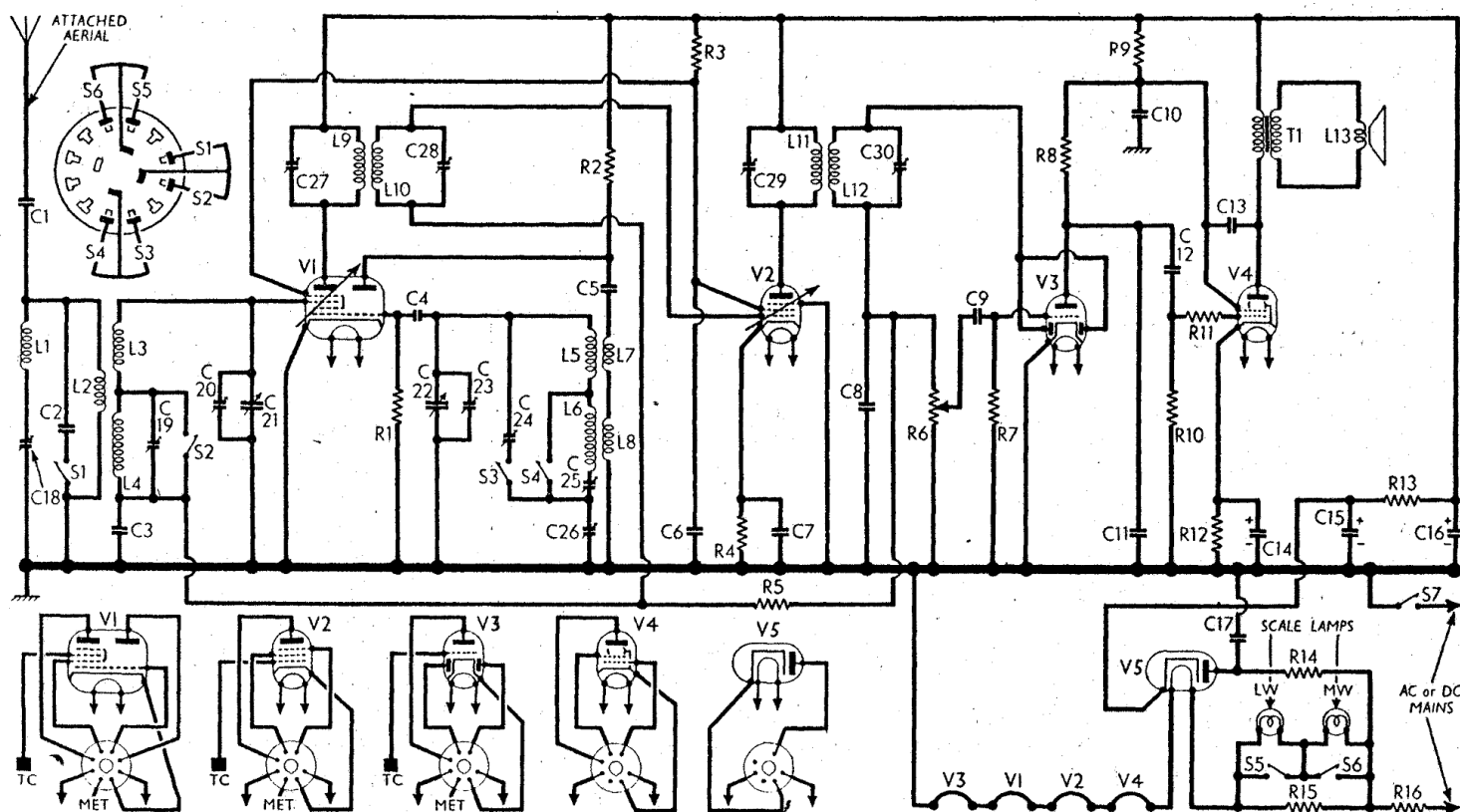
		Values (ohms)	Locations
R1	V1 osc. C.G. ...	33,000	J5
R2	Osc. Anode load ...	22,000	J5
R3	S.G.'s H.T. feed ...	33,000	G5
R4	V2 fixed G.B. ...	100	F5
R5	A.G.C. decoup. ...	1,000,000	H4
R6	Volume control ...	250,000	F3
R7	V3 C.G. resistor ...	10,000,000	F4
R8	V3 triode load ...	270,000	F4
R9	H.T. feed decoup. ...	22,000	F5
R10	V4 C.G. resistor ...	270,000	F5
R11	V4 C.G. stopper ...	4,700	F5
R12	V4 G.B. resistor ...	270	F5
R13	H.T. smoothing ...	1,500	E5
R14	V5 surge limiter ...	100	E5
R15	Scale lamps shunt ...	100	J3
R16	Heater ballast ...	830	B2

OTHER COMPONENTS

		Approx. Values (ohms)	Locations
L1	I.F. filter coil ...	22.0	A1
L2	Aerial coup. coil ...	14.0	A1
L3	Aerial tuning coils ...	2.5	A1
L4	Oscillator tuning ...	16.5	A1
L5	coils ...	3.0	A2
L6	Oscillator reaction ...	6.5	A2
L7	coils, total ...	3.0	A2
L8			

(Cont. col. 1 overleaf)

Intermediate frequency 451 kc/s.



CIRCUIT ALIGNMENT

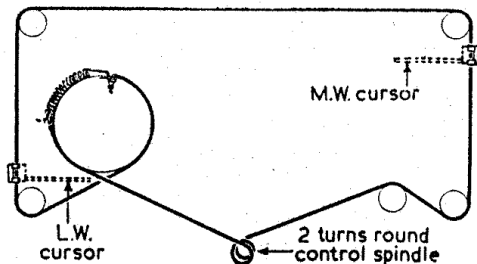
I.F. Stages.—Switch set to M.W., turn gang and volume control to maximum, connect signal generator (via an 0.1 μ F isolating capacitor in each lead) to control grid (top cap) of V1 and chassis, feed in a 451 kc/s (665.1 m) signal, and adjust C30, C29, C28, C27 (location references C2, B2) for maximum output, progressively attenuating the signal generator output as the circuits are aligned, to avoid A.G.C. action.

R.F. and Oscillator Stages.—With the gang at maximum capacitance the cursors should coincide with the two black lines printed at the high-wavelength end of each scale. They may be adjusted in position by sliding the cursor carriages along the drive cord. Transfer "live" signal generator lead, with series capacitor, to attached aerial connecting tag on L1-L4 (A1).

M.W.—With set still switched to M.W., tune to 214.3 m on scale, feed in a 214.3 m (1,400 kc/s) signal, and adjust C23 (A2) and C20 (A1) for maximum output. Tune to 500 m on scale, feed in a 500 m (600 kc/s) signal, and adjust C26 (H5) for maximum output. Repeat these operations until no improvement results.

L.W.—Switch set to L.W., tune to 1,000 m on scale, feed in a 1,000 m (300 kc/s) signal, and adjust C24 (A2) and C19 (A1) for maximum output. Tune to 2,000 m on scale, feed in a 2,000 m (150 kc/s) signal, and adjust C25 (H5) for maximum output. Repeat these operations until no improvement results.

I.F. Filter.—Switch set to M.W., tune to 500 m on scale, feed in a strong 451 kc/s signal, and adjust C18 (A1) for maximum output.



Sketch showing the course of the tuning drive cord, seen from the rear of the chassis with the gang at maximum capacitance